



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,345	10/16/2001	Jie Kan	9500-1	4149

7590 11/29/2004

Joseph W. Bain  
Akerman, Senterfitt & Eidson, P.A.  
222 Lakeview Avenue, 4th Floor  
P.O. Box 3188  
West Palm Beach, FL 33402-3188

EXAMINER

MALLARI, PATRICIA C

ART UNIT

PAPER NUMBER

3736

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/978,345

Applicant(s)

KAN, JIE

Examiner

Patricia C. Mallari

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-16 is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☒ Claim(s) 1-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/16/01 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

Claims 1-5, 18, 20, 24, and 25 are objected to because of the following informalities:

on line 1 of step a) of claim 1, "which can lower" should be replaced with "which lowers";

on line 2 of step a) of claim 1, "and cause" should be replaced with "and causes";

on lines 2-3 of claim 2, "forms a flexing angle between approximately 100 and 170 degrees, said angle between" should be replaced with "comprises forming a flexing angle of between approximately 100 and 170 degrees between";

on lines 2-4 of claim 3, "forms a flexing angle between a dorsal side of the wrist and a dorsal side of the hand of between approximately 100 and 170 degrees, and synchronously forms a turning angle" should be replaced with "comprises forming a flexing angle of between approximately 100 and 170 degrees between a dorsal side of the wrist and a dorsal said of the hand attached to the wrist and synchronously forming";

on line 2 of claim 4, "forms a flexing angle" should be replaced with "comprises forming a flexing angle of between approximately 100 and 170 degrees";

on lines 3-4 of claim 4, "of between approximately 100 and 170 degrees, and synchronously forms" should be replaced with ", and synchronously forming";

on line 2 of claim 5, "forms a flexing angle" should be replaced with "comprises forming a flexing angle of between approximately 100 to 170 degrees";

Art Unit: 3736

on lines 3-4 of claim 5, "of between approximately 100 and 170 degrees, and synchronously forms" should be replaced with ", and synchronously forming";

on line 6 of claim 5, "body, and " should be replaced with "body and";

on lines 3-4 of claim 18, "a dorsal side of a hand" should be replaced with "the dorsal side of the hand";

on line 2 of claim 20, "a part attached to" should be replaced with "the part adapted to";

on line 3 of claim 20, "diameters" should be replaced with "a diameter";

on lines 5-6 of claim 24, "array, there are at least two photoelectric devices in a line and a column of the array respectively" should be replaced with "array having at least two photoelectric devices in each of a line and a column of the array";

on line 4 of element b) of claim 25, "patient wherein" should be replaced with "patient, wherein";

on line 5 of element b) of claim 25, "pressure, when" should be replaced with "pressure when";

on line 6 of element b) of claim 25, "pressure, when" should be replaced with "pressure when". Appropriate correction is required.

### ***Response to Amendment***

The amendment filed 10/19/04 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Art Unit: 3736

on lines 3-4 of element b) of claim 17, "a surface area of said compressing wall is between one-fifth and one-third of the cross sectional area of the wrist";

on lines 7-8 of element b) of claim 25, "said values of bladder pressure detected by other transducers of the selected column of transducers".

Applicant is required to cancel the new matter in the reply to this Office Action. The applicants should also refer to the rejections under 35 U.S.C. 112, 1<sup>st</sup> paragraph below with regard to this newly claimed matter.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 17 recites the limitation "a surface area of said compressing wall is between one-fifth and one-third of the cross sectional area of the wrist" (lines 3-4 of element b of the claim). The instant specification fails to provide sufficient support for this limitation. The only limitation on the bladder size that the specification provides is that "the diameter [of the radial artery pressure bladder] can be selected as 1/3-3/5 of the wrist diameter" (p. 9, lines 8-11 of the instant specification).

Art Unit: 3736

Claim 25 further recites the limitation "said values of bladder pressure detected by other transducers of the selected column of transducers" on lines 7-8 of element b) of the claim. However, the instant specification fails to disclose the transducers in the reflective photoelectric transducer array as detecting bladder pressures as claimed. Instead, the application describes selection of the optimal transducer with regard to "bladder pressures corresponding to the maximum and the disappearance of the pulse wave signal detected at other sites of the selected columns of the site" (p.8, lines 3-13 of the instant specification).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 18, 21, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,840,037 to Tochikubo et al. in view of US Patent No. 4,993,422 to Hon et al. (Hon '422) and US Patent No. 6,231,517 to Forstner.

Tochikubo discloses a blood pressure measuring apparatus comprising a pressure bladder 10d having a compressing wall adapted to face the skin above an artery of a patient's limb and a pressure bladder holding device 10, 10a (col. 3, lines 35-47; figs. 1 & 2 of Tochikubo). A pulse transducer 12 is located on the skin above the artery for detecting a pulse wave signal of the artery (Col. 3, line 62-col. 4, line 22; col. 5, lines 13-22; fig. 2 of Tochikubo). A pressure-feeding-measuring system connected to

Art Unit: 3736

the pressure bladder 10d and the pulse transducer 12 includes a pressure feeding device 24 for feeding pressure to the bladder 10d and a signal processing device 14 for processing the detected pulse wave signal and controlling the pressure feeding device 24 to measure blood pressure by measuring the external pressure applied to the artery when the detected pulse wave signal of the artery changes (col. 3, lines 55-67; col. 4, lines 37-41 and 58-67; col. 5, lines 13-50 of Tochikubo). Tochikubo lacks a wrist holding device including a support board.

However, Hon '422 teaches an apparatus for non-invasively measuring arterial blood pressure comprising a wrist-holding device including a support board 80 shaped to adapt to a flexing angle between a dorsal side of the wrist and a dorsal side of the hand attached to the wrist between 100 and 170 degrees (figs. 2 and 10; col. 7, lines 15-31 of Hon '422). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the device of Hon '542 with that of Tochikubo in order to restrain the user from moving his hand relative to the wrist, thereby reducing the introduction of noise as well as causing the radial artery to be thrust upwardly towards the outer surface of the skin (col. 7, lines 15-21 of Hon '422). Tochikubo, as modified, fails to address the surface area of the compressing wall of the bladder.

However, Forstner describes a blood pressure measuring device comprising a blood pressure bladder 23b for applying an external pressure to the radial artery 2, wherein the bladder 23b comprises a compressing wall adapted to face the skin above the radial artery 2 of the wrist (fol. 4, lines 34-65; figs. 2 and 4 of Forstner). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to

Art Unit: 3736

combine the blood pressure measuring device of Forstner with that of Tochikubo, as modified by Hon '422 in order to minimize variation and to improve accuracy (col. 3, lines 57-65; col. 5, lines 31-36 of Forstner).

The applicants disclose that the specific diameter of the compressing wall of the bladder being between  $1/3$  and  $3/5$  that of a user's wrist ensures that the bladder does not apply pressure to the ulnar artery 9 synchronously (lines 3-11 of p. 9 of the applicant's specification). The device of Tochikubo, as modified by Hon '422 and Forstner, teaches a bladder that does not apply pressure to another artery while occluding the radial artery (col. 4, lines 38-43 of Forstner) but fails to address the size and shape of the compressing wall of the bladder. However, the applicants have not disclosed that the specific configuration of the compressing wall solves any problem or is for any purpose other than avoiding applying pressure on the ulnar artery and the radial artery simultaneously, which Tochikubo, as modified, accomplishes without specifying the size of the compressing wall as being  $1/5$  to  $1/3$  the cross sectional area of the wrist. Moreover, it appears that the blood pressure measuring apparatus would perform equally well with any bladder designed to avoid applying pressure on the ulnar artery and the radial artery simultaneously. Accordingly, the use of a bladder having a compressing wall with a surface area of between one-fifth and one-third the cross sectional area of the wrist is deemed to be a design consideration which fails to patentably distinguish over the prior art of Tochikubo, as modified by Hon '422 and Forstner.



Art Unit: 3736

As to the language "for stably positioning said pressure bladder on the skin and ensuring the center of the surface area of the compressing wall being above a point where the radial artery crosses a most protuberant spot on a volar aspect of the radius of the wrist" on lines 1-4 of element c of claim 17, the applicants should note that this is merely "intended use" language which cannot be relied upon to define over the prior art, since Tochikubo, as modified by Hon '542 and Forstner, teaches all of the claimed elements and their recited relationships. See *Ex parte Masham* 2 USPQ 2<sup>nd</sup> 1647. The pressure bladder holding device of the blood pressure measuring apparatus described by Tochikubo, as modified, is certainly capable of stably positioning the pressure bladder on the skin and of ensuring that the center of the compressing wall is above a point where the radial artery crosses a most protuberant spot on a volar aspect of the radius of the wrist.

Regarding claim 18, the support board is made of a rigid material and possess a shape adapted to cover at least a portion of a dorsal side of the hand attached to the wrist, the wrist joint, and the forearm attached to the wrist (fig. 2 of Hon '422). The board has several straps 88, 90 fixed on the board by several non-extensible devices respectively for stably holding the forearm, wrist and hand of the patient to the support board (figs. 2 & 10; col. 7, lines 27-36 of Hon '422).

Regarding claim 21, the pressure bladder and holding device are integrated into a whole, to form a strap embedded with the bladder (see fig. 2 of Tochikubo; figs. 2 & 4 of Forstner). The compressing wall is made of a resilient membrane shaped to upheave towards the wrist (col. 3, lines 46-50 of Tochikubo), and the strap is made of at least a

Art Unit: 3736

semi-rigid material with slight elasticity and shaped into a ring with an elliptic cross section similar to that of the wrist. The two ends of an opening of the strap are connected by non-extensible means (col. 3, lines 42-45 of Tochikubo).

Regarding claim 28, the pressure feeding measuring system is capable of intermittently measuring the blood pressure of the radial artery according to an oscillometric method (col. 5, line 23, col. 6, line 14 of Tochikubo).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tochikubo, in view of Hon '422 and Forstner, as applied to claims 17, 18, 21, and 28 above, and further in view of US Patent No. 6,132,383 to Chesney et al. Tochikubo, as modified, fails to address the thickness of the support board. However, Chesney teaches a support board for use during blood pressure measurement wherein the thickness is increased in a part attached to cover the dorsal side of the wrist joint (fig. 9; col. 12, lines 45-59 of Chesney), which serves the same function as a support board without the increased thickness (col. 12, lines 49-51; figs. 1A-1D). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a support board having an increased thickness in the part of the board adapted to cover the dorsal side of the wrist joint in the apparatus of Tochikubo, as modified by Hon '442 and Forstner, since Chesney teaches a support board with the increased thickness and a support board without it are functionally equivalent.

As to the language "so as to eliminate a difference between diameters of the wrist joint section and that of the middle part of the forearm, and to fill a sinking surface of the dorsal side of the wrist joint part due to the hand bending to a regular column

Art Unit: 3736

surface", the applicant should note that this is merely "result" language which cannot be relied upon to define over Tochikubo, in view of Hon '422, Forstner, and Chesney, since the prior art discloses all of the claimed elements and their recited relationships.

Moreover, the examiner will presume that the recited results are inherent in Tochikubo, as modified, since all of the claimed elements and the relationships therebetween are met by the combined references. If the recited result is not inherent in Tochikubo, as modified, then this would mean that the applicant has failed to recite one or more critical features of the present invention (i.e. a problem under 112, 1<sup>st</sup> paragraph). See *Ex parte Masham* 2 USPQ 2<sup>nd</sup> 1647.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tochikubo in view of Hon '422 and Forstner, as applied to claims 17, 18, 21, and 28 above. Tochikubo, as modified describes the pulse transducer 12 as being a volume transducer which is a reflective photoelectric transducer that consists of at least one light emitting device and at least one photoelectric device arranged vertical to the radial artery and fixed on an inner surface of the compressing wall of the pressure bladder (col. 3, line 67-col. 4, line 36; col. 5, lines 13-20; figs. 1 & 2 of Tochikubo). Tochikubo, as modified, fails to teach a midpoint between the light emitting device and the photoelectric device corresponding to an area center of the compressing wall of the pressure bladder. However, the applicants have not disclosed that such an arrangement of the light emitting device and photoelectric device with respect to the compressing wall solves any problem or is for any purpose. Moreover, it appears that the blood pressure measuring apparatus would perform equally well with any pulse

Art Unit: 3736

wave transducer. Accordingly, the configuration in which a midpoint between the light emitting device and photoelectric device corresponding to an area center of the compressing wall is deemed to be a design consideration which fails to patentably distinguish over the prior art of Tochikubo, as modified by Hon '422 and Forstner.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tochikubo, in view of Hon '422 and Forstner, as applied to claims 17, 18, 21, and 28 above, and further in view of US Patent No. 5,170,796 to Kobayashi. Tochikubo, as modified discloses the pulse transducer 12 as a volume transducer array including a reflective photoelectric transducer array having a plurality of light emitting devices and a plurality of photoelectric devices which output independent pulse signals respectively (col. 4, lines 5-14, lines 30-36, and lines 47-57; col. 5, lines 13-20; fig. 1 of Tochikubo). The photoelectric devices are arranged to form a rectangular array, there being at least two photoelectric devices in a line (fig. 1 of Tochikubo), and since the light emitting devices are integrally assembled with the photoelectric devices (Col. 4, lines 5-10 of Tochikubo), they are consequently arranged around the photoelectric device array. The light emitting devices and photoelectric devices are fixed on an inner surface of the compressing wall (fig. 2 of Tochikubo) and each output of the photoelectric devices is connected to an input of an optimal site selector to select an optimal measuring site (col. 4, lines 47-57 of Tochikubo). Tochikubo, as modified, teaches the photoelectric array as having only one line of multiple photoelectric devices, rather than having at least two rows of multiple photoelectric devices.

However, Kobayashi teaches a blood pressure measuring device in which an array of transducers is provided for sensing a pulse wave. The array may be configured as multiple transducers 32 in a row along a straight line or as multiple transducers 32 in two rows (col. 4, line 63-col. 5, line 8 of Kobayashi). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use multiple rows of multiple photoelectric devices in place of the single row of devices in the apparatus of Tochikubo, as modified by Hon '422 and Forstner, since Kobayashi teaches an array of pulse wave transducers having a single row of multiple transducers and a plurality of rows with multiple transducers as being functionally equivalent.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tochikubo in view of Hon '422, Forstner, and Kobayashi, as applied to claim 24 above, and further in view of US Patent No. 4,799,491 to Eckerle. Tochikubo, as modified lacks a device for displaying transducer position. However, Eckerle teaches a blood pressure measuring device comprising a display 66 for displaying transducer position to indicate a detailed position of the optimal transducer in an array of pulse wave transducers (figs. 3, 5a & 5b; col. 6, line 53-col. 7, line 10; col. 12, lines 38-46 of Eckerle). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the device of Eckerle with that of Tochikubo, as modified by Hon '422, Forstner, and Kobayashi, in order to provide the user with information necessary to ensure optimal use of the device.

Art Unit: 3736

Regarding claim 27, a warning device of transducer position issues a warning signal when a position of the optimal transducer does not correspond to the center of the array (col. 6, lines 56-63 of Eckerle).

Claims 17, 18, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,869,261 to Penáz in view of Hon '422 and Forstner. Penáz discloses an arterial blood pressure measuring device comprising a pressure bladder 1 for applying an external pressure to the radial artery having a compressing wall adapted face the skin above an artery (figs. 1-3; col. 2, lines 54-57; col. 3, lines 16-20 of Penáz). A pulse transducer 10, 11 is located on the skin above a point of the artery for detecting a pulse wave signal of the artery (fig. 3; col. 3, lines 20-23; col. 4, lines 26-34 of Penáz). A pressure feeding measuring system is connected to the bladder 1 and the pulse transducer 10, 11 and includes a pressure feeding device for feeding pressure to the bladder 1 (col. 2, line 66-col. 3, line 3 of Penáz) and a signal processing device for processing the detected pulse wave signal of the radial artery and controlling the pressure feeding device so as to measure blood pressure of the artery by measuring the external pressure applied to the artery when the detected pulse wave signal changes (fig. 3; col. 3, lines 1-13; col. 3, line 51-col. 4, line 66 of Penáz). Penáz lacks a wrist holding device including a support board and a pressure bladder holding device.

Hon '422 teaches an apparatus for non-invasively measuring arterial blood pressure comprising a wrist-holding device including a support board 80 shaped to adapt to a flexing angle between a dorsal side of the wrist and a dorsal side of the hand

Art Unit: 3736

attached to the wrist between 100 and 170 degrees (figs. 2 and 10; col. 7, lines 15-31 of Hon '422). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the device of Hon '542 with that of Penáz in order to restrain the user from moving his hand relative to the wrist, thereby reducing the introduction of noise as well as causing the radial artery to be thrust upwardly towards the outer surface of the skin (col. 7, lines 15-21 of Hon '422). Penáz, as modified, lacks a pressure bladder holding device.

However, Forstner describes a blood pressure measuring device comprising a blood pressure bladder 23b for applying an external pressure to the radial artery 2, wherein the bladder 23b comprises a compressing wall adapted to face the skin above the radial artery 2 of the wrist (col. 4, lines 34-65; figs. 2 and 4 of Forstner) and a pressure bladder holding device 22 for stably positioning the bladder 23b on the skin (figs. 2 & 4; col. 4, lines 33-37 of Forstner). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the blood pressure measuring device of Forstner with that of Penáz, as modified by Hon '422 in order to minimize variation and to improve accuracy (col. 3, lines 57-65; col. 5, lines 31-36 of Forstner).

Regarding the language "wherein a surface area of said compressing wall is between one-fifth and one-third of the cross sectional area of the wrist" in claim 17, the applicants recite that the specific diameter of the compressing wall of the bladder with respect to the user's wrist ensures that the bladder does not apply pressure to the ulnar artery 9 synchronously (lines 3-11 of p. 9 of the applicant's specification). The device of

Art Unit: 3736

Penáz, as modified by Hon '422 and Forstner, similarly describes a bladder that does not apply pressure to another artery while occluding the radial artery (col. 4, lines 38-43 of Forstner) but fails to address the size and shape of the compressing wall of the bladder. However, the applicants have not disclosed that the specific configuration of the compressing wall solves any other problem or is for any other purpose. Moreover, it appears that the blood pressure measuring apparatus would perform equally well with any bladder designed to avoid applying pressure on the ulnar artery and the radial artery simultaneously. Accordingly, the use of a bladder having a compressing wall with a surface area of between one-fifth and one-third the cross sectional area of the wrist is deemed to be a design consideration which fails to patentably distinguish over the prior art of Penáz, as modified by Hon '422 and Forstner.

As to the language "for stably positioning said pressure bladder on the skin and ensuring the center of the surface area of the compressing wall being above a point where the radial artery crosses a most protuberant spot on a volar aspect of the radius of the wrist" on lines 1-4 of element c of claim 17, the applicants should note that this is merely "intended use" language which cannot be relied upon to define over the prior art, since Penáz, as modified by Hon '542 and Forstner, teaches all of the claimed elements and their recited relationships. See *Ex parte Masham* 2 USPQ 2<sup>nd</sup> 1647. The pressure bladder holding device of the blood pressure measuring apparatus described by Penáz, as modified, is certainly capable of stably positioning the pressure bladder on the skin and of ensuring that the center of the compressing wall is above a point where the radial artery crosses a most protuberant spot on a volar aspect of the radius of the wrist.



Art Unit: 3736

Regarding claim 18, the support board is made of a rigid material and possess a shape adapted to cover at least a portion of a dorsal side of the hand attached to the wrist, the wrist joint, and the forearm attached to the wrist (fig. 2 of Hon '422). The board has several straps 88, 90 fixed on the board by several non-extensible devices respectively for stably holding the forearm, wrist and hand of the patient to the support board (figs. 2 & 10; col. 7, lines 27-36 of Hon '422).

Regarding claim 29, the pressure feeding measuring system is capable of continuously measuring the blood pressure of the artery according to the vascular unloading method (col. 3, lines 3-9; col. 4, lines 25-66 of Penáz).

### ***Allowable Subject Matter***

Claims 1-16 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 1-16, the prior art of record fails to teach or fairly suggest a method for non-invasively measuring arterial blood pressure at a wrist of a patient wherein a changing external pressure is applied to the skin above a point where the radial artery crosses a most protuberant spot on a volar aspect of the radius of the wrist, as claimed.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia C. Mallari whose telephone number is (571)

Art Unit: 3736

272-4729. The examiner can normally be reached on Monday-Friday 10:00 am-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Patricia Mallari  
Patent Examiner  
Art Unit 3736